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MASSAGE OF THE CORNEA.

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THE use of the yellow oxide of mercury for the purpose of clearing up opacities of the cornea is a method of practice widely employed among ophthalmic surgeons, resting upon Pagenstecher's recommendation, who was probably the first to insist upon the necessity of rubbing in the stimulating ointment. Since this time the method has been used with gratifying success, some surgeons having demonstrated that the massage itself was the efficient agent by the omission of any medicament whatsoever, and the employment of a simple ointment as a lubricating substance.

The whole subject of massage in the treatment of eye diseases has recently received an extended notice at the hands of Dr. Pfalz,¹ of Duesseldorf, whose results have been unusually satisfactory, and who has extended the employment of this method of treatment from affections of the anterior segment of the eye, iritis being excluded, to include chronic, plastic iritis and diseases of the lids. It is the purpose of the following brief note to place upon record several cases selected from a number in the Philadelphia Hospital and private practice in which very satisfactory results were reached by a systematic, thorough, and regular massage of the cornea.

CASE I.—Mary L., æt. 21, a patient in the Philadelphia Hospital for interstitial keratitis. When admitted the sclera of the right eye showed a purplish, deep episcleral injection, and the cornea an almost complete ground-glass appearance. In the left eye this injection was of a darker hue and the centre of the cornea occupied by a dense leucoma-like opacity, the periphery being cloudy and preventing any view of the iris. In the right eye the vision was qualitative light perception; in the left eye quantitative light perception.

¹ Medical News, Feb. 23, 1889.

The patient was treated with the usual remedies directed to the relief of inherited syphilis with the result of improving general nutrition, the disappearance of the episcleral injection, a slight modification of the opacity of the right eye, sufficient to permit imperfect counting of fingers at one foot. No change was noted in the left eye. This treatment occupied a number of months.

At this time systematic massage of the cornea with the yellow oxide of mercury, grain 1 to the drachm, was begun. At first the applications were made two or three times a week with my own hand, later every other day by the nurses, and later the patient herself was taught the method which consisted in placing a small particle of the salve beneath the eyelid which was rubbed over the cornea radially from centre to periphery for a minute, and then for the same space of time around its circumference. Internally the patient took the tincture of the chloride of iron. In the course of three months the right eye had sufficiently cleared to receive a visual acuity of $\frac{20}{c}$ and permit the patient to read coarse print. The left eye was practically unaffected as far as the centre of the opacity was concerned, but cleared sufficiently in the circumference to permit a small iridectomy which yielded a sharpness of sight equivalent to counting fingers.

CASE 2.—Miss D., a trained nurse by occupation, when a child, had a violent inflammation of both eyes which was attributed to the introduction of a foreign substance believed to have been arsenic. After the subsidence of the inflammation, which lasted for four months, vision was dim, and five years ago increased in its imperfections after an attack of illness probably malarial in character. In the right eye there was a triangular white spot in the upper portion of the cornea over which the traces of a former vascularization could be detected and a smaller spot directly central. The fundus was dimly seen; the refraction apparently myopic. In the left eye a milky opacity occupied the lower and outer quadrant of the cornea and crossed its centre. A hazy view of the fundus revealed an oval disk, a semiatrophic crescent, and a high myopia. The best vision which could be obtained with glasses in the right eye was $\frac{1}{6}$ of normal. The left eye was not improved, or, at best, objects were only sharpened by a concave spherical.

Massage of the cornea in the manner just described was begun, the applications being made daily. Two weeks after the commencement of this treatment the vision in the right eye with the best correcting glass had risen to $\frac{1}{3}$ of normal, that in the left eye to $\frac{1}{8}$ of normal. This treatment was continued for some time, with interruptions of a week or more in order to permit the conjunctiva to lose the irritability occasioned by the treatment until April of this year, when, with the best correcting glass, the vision in the right eye was $\frac{1}{2}$ of normal and that in the left eye $\frac{1}{6}$. In other words, in about nine months the gain in right eye had been from $\frac{5}{xxx}$ to $\frac{5}{x}$, and in the left eye from $\frac{5}{0}$ to $\frac{5}{xxx}$. There was, of course, a corresponding diminution in the visible opacity of the cornea.

CASE 3.—A man, æt. about 50, a laborer by occupation, received a lime burn of the eyes which resulted in a fine, diffuse, corneal haze, permitting no clear view of the fundus, and reducing the vision in the one eye to the ability to count fingers; in the other to $\frac{5}{xl}$. A rather imperfect massage of the cornea owing to the irregular habits of the patient, unassociated with other treatment except a boric wash, produced a gain of $\frac{5}{xx}$ in the right eye, and $\frac{5}{x}$ in the left eye. He is at present under observation for an entirely different complaint, and the vision just recorded still obtains.

CASE 4.—Mr. E., æt. 22, was severely burnt in the right eye with lunar caustic, accidentally applied, causing a large, oval ulcer in the centre of the cornea, superficial in character. After appropriate treatment to relieve the inflammatory con-

ditions, the result was a finely-stippled, corneal macula, corresponding in size to the original lesion, and reducing the vision to $\frac{5}{XXXV}$. Massage of the cornea with the yellow oxide of mercury in the same manner as the other cases, at first twice, and later three times weekly, in two months restored to the injured eye an acuity of vision equal to $\frac{5}{VII}$ and part of $\frac{5}{V}$, oblique light revealing only the faintest blue haze. This was tried only after a long period of time during which no treatment except a mild antiseptic wash was employed, and no change in the corneal haze occurred.

CASE 5.—A. M., a laborer, æt about 35. The upper half of the cornea hazy, and the epithelium roughened, the result of former granular lids. Vision equivalent to counting fingers at three feet. Three months of intermitting massage of the cornea gave a result of $V = \frac{5}{XXX}$.

These five cases are quoted from a number, about ten in all, among adults, in which the gain was demonstrable by taking the vision before and after the treatment. In a number of other instances in which no accurate data are at hand in regard to visual acuity, there was evident on examination a marked gain in the transparency in the cornea, and in still others among children, where no measurement of vision by test-type was possible, a similar improvement was noticeable.

The method of treatment in all cases was that described in the first instance, namely, the insertion of a small particle of the yellow oxide of mercury salve into the conjunctival cul-de-sac which was rubbed, sector by sector, over the cornea, and afterwards circularly about its circumference for from one to three minutes at a time. The massage may be practised three times a week, every other day, or daily, according to the amount of reaction which appears after each treatment. I found in two instances that the application was possible if, at the same time and immediately following it, a collyrium of boric acid grains 10, cocaine grains 2, distilled water 1 ounce, was employed, which solution was sufficient to allay the conjunctival irritation.

It may very naturally be objected that these results were obtained because an ointment of the yellow oxide of mercury was in all instances the medicament employed, and to its presence the gain in vision should be attributed, and not to the massage. It is perfectly true that I have not used, as has been done, massage alone, but always with the stimulating ointment as an adjuvant, but it is equally true that the use of the mercurial salve without the massage does not yield like results. These cases are recorded only to plead for a thorough trial of this method in cases of corneal opacity of such character and such lack of density that reasonable hopes of its dissemination may be entertained. The treatment requires patience, faithful performance, and willingness on the part of the patient to put up with good deal of temporary inconvenience during the application.

